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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,048

07/24/2006

Takahisa Muramoto

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EXAMINER

BASS, DIRK R

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

02/18/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,048	<b>Applicant(s)</b> MURAMOTO ET AL.	
	<b>Examiner</b> DIRK BASS	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **SUPPLEMENTAL FINAL ACTION**

**Examiner's Note:** This action is supplemental to the action mailed January 19, 2010. This action includes the 35 U.S.C. 103(a) rejection of claim 7 which was omitted from the previous office action. The instant action supercedes any previous actions issued by the office.

Applicant's response filed September 28, 2009 is acknowledged. Claims 1-8, 10-12, and 15-17 are amended, and claims 13-14 are withdrawn from consideration. Claims 1-18 are pending and claims 1-12 and 15-18 are further considered on the merits.

#### ***Response to Amendment***

In response to applicant's amendments, the examiner modifies the rejections set forth in the office action dated May 27, 2009.

#### ***Election/Restrictions***

1. Applicant's election with traverse of group I, claims 1-12 and 15-18 in the reply filed on September 28, 2009 is acknowledged. The traversal is on the ground(s) that the search and examination could be made without serious burden. This is not found persuasive because the grounds for restriction did not encompass serious burden. A lack of unity was established between the two groups, there being no common linking feature among said groups that provides a contribution over the prior art.
2. The requirement is still deemed proper and is therefore made **FINAL**.

#### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. **Claims 1-12 and 15-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., EP 1591422 (Suzuki).

Regarding claim 1, Suzuki discloses a method of treating hardly decomposable harmful substances (abstract and pg. 3, l. 54) comprising:

Adsorption treatment by adding an adsorbent to raw water containing a hardly decomposable substance (pg. 3, l. 56);

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A membrane filtering treatment separating permeated liquid through a filter, said hardly decomposable substance adsorbed thereon (pg. 3, l. 57-58 and pg. 5, l. 51-56);

Chemically decomposing the hardly decomposable substance adsorbed on said concentrated adsorbent with a peroxide without any desorption from said adsorbent (pg. 4, l. 1-2 and pg. 6, l. 6-11).

While Suzuki fails to explicitly disclose providing a plurality of membrane filtering treatments through a plurality of filter membranes, it would have been obvious to one skilled in the art at the time the invention was made to include multiple filter membranes for a plurality of membrane filtering treatments, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art and that performing multiple filtering treatments would have produced reliable and predictable results such as increased concentrations of adsorbent collected on said membranes (MPEP 2144.04, Section VI, Part B).

Regarding claim 2, Suzuki discloses a method wherein a peroxide is used in an amount of at least 100 times larger in molar relative to that of said hardly decomposable substance (pg. 4, l. 7-9).

Regarding claim 3, Suzuki discloses a method further comprising a membrane concentrating treatment wherein said treatment is reverse osmosis (pg. 5, l. 51-56).

Regarding claim 4, Suzuki discloses a method further comprising a chlorine neutralization step (pg. 3, l. 56 and pg. 4, l. 12-15).

Regarding claim 5, Suzuki discloses a method further comprising an irradiation step with ultraviolet light (pg. 7, l. 40-43).

Regarding claim 6, Suzuki discloses a method comprising backwashing the filter membranes (pg. 15, l. 39-42).

Regarding claims 8-9, Suzuki discloses a method wherein the adsorbent is zeolite or titanium dioxide (pg. 4, l. 4-6).

Regarding claim 10, Suzuki discloses a method wherein the filter membranes are ultrafilter membranes (pg. 5, l. 51-56).

Regarding claim 11, Suzuki discloses a method wherein the peroxide is a persulfate (pg. 4, l. 16-24).

Regarding claim 12, Suzuki is relied upon in the rejection of claim 6 as set forth above.

Regarding claims 15-18, Suzuki is relied upon in the rejection of claims 1-12 as set forth above, there being no new limitations introduced in claims 15-18.

5. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Krulik et al., US 6652758 (Kruklik).

Suzuki fails to explicitly disclose the addition of a flocculating agent. However, Krulik discloses adding a flocculating agent (fig. 1, Ref. 120) to water containing the adsorbent (112), to flocculate and separate the adsorbent adsorbing the hardly decomposable substance.

At the time of invention, it would have been obvious to one skilled in the art to add the flocculating agent of Krulik to the method of Suzuki in order to help reduce and separate the concentration of harmful adsorbent components in the water (col. 4, l. 33-48).

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-12, and 15-18 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIRK BASS whose telephone number is (571) 270-7370. The examiner can normally be reached on Mon - Fri (9am-4pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571) 272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Krishnan S Menon/  
Primary Examiner, Art Unit 1797

/DRB/  
Dirk R. Bass